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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,766	07/27/2001	Hyun-Sook Kang	Q63182	7463

7590 08/09/2004

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EXAMINER

DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
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2686

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DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,766

Applicant(s)

KANG ET AL.

Examiner

Willie J. Daniel, Jr.

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The objections to the Figs. 1-2, 4-5 are withdrawn, as the proposed Figs. 1-2, 4-5 corrections are approved.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 5, 6, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by **Bauchot (US 5,970,062)**.

Regarding **Claim 1**, Bauchot discloses a method for allocating bandwidth in a wireless Local Area Network having an Access Point (18) and at least one mobile terminal

(10) which reads on the claimed “wireless communication terminal” (see Fig. 1A),
comprising the steps of:

(a) the Access Point (18) allocating a fixed bandwidth to said at least one wireless
communication terminal (10) (see col. 6, lines 21-58; Figs. 1A and 3);

(b) receiving a transmission rate corresponding to a desired UP_RESERVED which reads
on the claimed “Contention Free Period” of data to be transceived from said at least one
wireless communication terminal (10) (see col. 6, lines 34-40; col. 8, lines 14-20; col. 9, lines
30-48; Fig. 3), where the data is transferred at a transmission rate according to the mobile
terminal requests corresponding to the allocated bandwidth for transmitting in which the
transmission rate would be inherent; and

(c) adjusting a rate of Contention Free Period occupancy of said at least one wireless
communication terminal (18) in the fixed bandwidth, based on the received transmission rate
(see col. 6, lines 34-40; col. 8, lines 14-20; col. 9, lines 30-48; Fig. 3), where the rate is
adjusted relating to the request made from the mobile terminal.

Regarding **Claim 5**, Bauchot discloses the method of claim 1, wherein the step (c)
comprises the steps of:

calculating a Contention Free Period occupancy requested by said at least one wireless
communication terminal (10) (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49; Fig. 3),
where the mobile terminal requests addition bandwidth and the Contention Free Period is
calculated and adjusted accordingly;

accepting the Contention Free Period occupancy as a current Contention Free Period
occupancy, if the Contention Free Period occupancy requested by said at least one wireless

communication terminal (10) does not exceed a Contention Free Period occupancy limit (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49), where the access point accepts the mobile terminals request for additional bandwidth by adjusting the bandwidth; and

associating said at least one wireless communication terminal (10) to the Access Point (18) after adjusting a ratio of the Contention Free Period to Contention Period, if a sum of the current Contention Free Period occupancy is less than a maximum Contention Free Period (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49; Fig. 3), where the mobile terminal and access point communicates according to the adjusted ratio.

Regarding **Claim 6**, Bauchot discloses an apparatus for allocating bandwidth in a wireless Local Area Network, including at least one wireless communication terminal (10) (see Fig. 1A), comprising:

bandwidth fixing means (58) for fixing bandwidth to be allocated to said at least one wireless communication terminal (10) (see col. 6, lines 21-58; Figs. 1A and 3);

transmission rate receiving means (38) for receiving a transmission rate of said at least one wireless communication terminal (10) from said at least one wireless communication terminal, if said at least one wireless communication terminal is intended for a data transmission through a Contention Free Period (see col. 6, lines 34-40; col. 8, lines 14-20; col. 9, lines 30-48; Figs. 1A and 3), where the data is transferred at a transmission rate according to the mobile terminal requests corresponding to the allocated bandwidth for transmitting in which the transmission rate would be inherent; and

period adjusting means (84) for adjusting a rate of a Contention Free Period occupancy of said at least one wireless communication terminal (10) in the bandwidth, based on the

received transmission rate in the fixed bandwidth, based on the received transmission rate (see col. 6, lines 34-40; col. 8, lines 14-20; col. 9, lines 30-48; Fig. 3), where the rate is adjusted relating to the request made from the mobile terminal.

Regarding **Claim 10**, Bauchot discloses the apparatus of claim 6, wherein the period adjusting means comprises:

calculating means (84) for calculating the Contention Free Period occupancy requested by said at least one wireless communication terminal (10), based on the received transmission rate (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49; Fig. 3), where the mobile terminal requests addition bandwidth and the Contention Free Period is calculated and adjusted accordingly;

accepting means (38) for accepting the requested Contention Free Period occupancy as a current Contention Free Period occupancy, if the Contention Free Period occupancy requested by said at least one wireless communication terminal (10) does not exceed a Contention Free Period occupancy limit (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49), where the access point accepts the mobile terminals request for additional bandwidth by adjusting the bandwidth; and

association means (48) for associating the mobile terminal (10) which reads on the claimed "terminal" to an Access Point (18) after adjusting a ratio of the Contention Free Period to Contention Period, if a sum of the current Contention Free Period occupancy is less than a maximum Contention Free Period (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49; Fig. 3), where the mobile terminal and access point communicates according to the adjusted ratio.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauchot (US 5,970,062)** in view of **Kalliokulju et al. (US 6,553,006)**, hereinafter **Kalliokulju**.

Regarding **Claim 2**, Bauchot teaches of data transfer (see col. 6, lines 34-36).

Bauchot fails to disclose the data being real time data. However, the examiner maintains that data being real time data was well known in the art, as taught by Kalliokulju.

In the same field of endeavor, Kalliokulju teaches of data being real time data (see col. 8, lines 62-63), where the data is based on real time data that is transmitted.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot and Kalliokulju to have data being real time data.

The advantage of combining the teachings of Bauchot and Kalliokulju to have resources allocated (e.g. based on bandwidth) that provides quality of service for data transmission (see col. 8, lines 18-64).

Regarding **Claim 4**, Bauchot teaches of wherein the transmission rate received from said at least one wireless communication terminal comprises a data packet length (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49; Fig. 3), where length of the data packet (frame) is

according to the bandwidth. Bauchot fails to disclose the feature the transmission rate comprises a data transmission speed. However, the examiner maintains that the feature the transmission rate comprises a data transmission speed was well known in the art, as taught by Kalliokulju.

Kalliokulju further teaches of the feature the transmission rate comprises a data transmission speed (see col. 4, lines 61-64), where the data transmission has an associated speed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot and Kalliokulju to have the feature the transmission rate comprises a data transmission speed.

The advantage of combining the teachings of Bauchot and Kalliokulju to have resources allocated (e.g. based on bandwidth) that provides quality of service for data transmission (see col. 8, lines 18-64).

Regarding **Claim 7**, Bauchot teaches of data transfer (see col. 6, lines 34-36). Bauchot fails to disclose the data being real time data. However, the examiner maintains that data being real time data was well known in the art, as taught by Kalliokulju.

Kalliokulju further teaches of data being real time data (see col. 8, lines 62-63), where the data is based on real time data that is transmitted.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot and Kalliokulju to have data being real time data.

The advantage of combining the teachings of Bauchot and Kalliokulju to have resources allocated (e.g. based on bandwidth) that provides quality of service for data transmission (see col. 8, lines 18-64).

Regarding **Claim 9**, Bauchot teaches of having a data packet length for data transmission at an associated transmission rate (see col. 6, lines 34-40; col. 8, line 7 - col. 9, line 49; Fig. 3), where length of the data packet (frame) is according to the bandwidth. Bauchot fails to disclose the data transmission speed. However, the examiner maintains that data transmission speed was well known in the art, as taught by Kalliokulju.

Kalliokulju further teaches of data transmission with speed (see col. 4, lines 61-64), where the data transmission has an associated speed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot and Kalliokulju to have data transmission speed for transmission.

The advantage of combining the teachings of Bauchot and Kalliokulju to have resources allocated (e.g. based on bandwidth) that provides quality of service for data transmission (see col. 8, lines 18-64).

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauchot (US 5,970,062)** in view of **Kalliokulju et al. (US 6,553,006)** and **Montpetit (US 6,366,761)**.

Regarding **Claim 3**, Bauchot teaches the fixed time frame which reads on the claimed “bandwidth” is the sum of Down, Up_Reserved, and Up_Contention periods (see col. 8, lines 28-34; Fig. 3), where the periods are for transmission of data. Bauchot fails to disclose the

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data being real time and non real time data and the bandwidth being the sum of contention and contention free periods. However, the examiner maintains that data being real time and non real time data was well known in the art, as taught by Kalliokulju.

Kalliokulju further teaches of data being real time and non real time data (see col. 8, lines 62-64), where the data is based on real time and non real time data that is transmitted. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot and Kalliokulju to have data being real time data. The advantage of combining the teachings of Bauchot and Kalliokulju to have resources allocated in which the allocation is based on, for example, bandwidth that provides quality of service for data transmission (see col. 8, lines 18-64). Bauchot and Kalliokulju fails to disclose the bandwidth being the sum of contention and contention free periods. However, the examiner maintains that bandwidth being the sum of contention and contention free periods was well known in the art, as taught by Montpetit.

In the same field of endeavor, Montpetit teaches of bandwidth being the sum of two periods (see col. 9, line 1 - col. 10, line 37; Fig. 6), where the bandwidth has a threshold for transmission until a request is made for the additional bandwidth that is available in the contention channel.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot, Kalliokulju, and Montpetit to have bandwidth being the sum of contention and contention free periods.

The advantage of combining the teachings of Bauchot, Kalliokulju, and Montpetit is to allocate the additional bandwidth for packet transmission when requested to maintain quality of service (see col. 5, lines 46-61; col. 9, lines 30-36).

Regarding **Claim 8**, Bauchot teaches the fixed time frame which reads on the claimed “bandwidth” is the sum of Down, Up_Reserved, and Up_Contention periods (see col. 8, lines 28-34; Fig. 3), where the periods are for transmission of data. Bauchot fails to disclose the data being real time and non real time data and the bandwidth being the sum of contention and contention free periods. However, the examiner maintains that data being real time and non real time data was well known in the art, as taught by Kalliokulju.

Kalliokulju further teaches of data being real time and non real time data (see col. 8, lines 62-64), where the data is based on real time and non real time data that is transmitted. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot and Kalliokulju to have data being real time data. The advantage of combining the teachings of Bauchot and Kalliokulju to have resources allocated in which the allocation is based on, for example, bandwidth that provides quality of service for data transmission (see col. 8, lines 18-64). Bauchot and Kalliokulju fails to disclose the bandwidth being the sum of contention and contention free periods. However, the examiner maintains that bandwidth being the sum of contention and contention free periods was well known in the art, as taught by Montpetit.

Montpetit further teaches of bandwidth being the sum of two periods (see col. 9, line 1 - col. 10, line 37; Fig. 6), where the bandwidth has a threshold for transmission until a request is made for the additional bandwidth that is available in the contention channel.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bauchot, Kalliokulju, and Montpetit to have bandwidth being the sum of contention and contention free periods.

The advantage of combining the teachings of Bauchot, Kalliokulju, and Montpetit is to allocate the additional bandwidth for packet transmission when requested to maintain quality of service (see col. 5, lines 46-61; col. 9, lines 30-36).

Response to Arguments

4. Applicant's arguments filed 24 May 2004 have been fully considered but they are not persuasive.
5. Regarding applicant's argument of Claim 1 that "Bauchot does not teach...receiving a transmission rate corresponding to a desired contention free period of data to be transceived from said at least one wireless communication terminal" on pg. 8, lines 2-4, Examiner respectfully disagrees. The applied reference Bauchot teaches of transmitting *bandwidth* reservation requests for UP_RESERVED (or Contention Free Period) of data transfer (see col. 6, lines 29-67) for allocation of bandwidth by the Access Point to the mobile terminals. Bandwidth directly relates to transmission rate or baud rate for data transfer which is the reasoning for inherency, where in the art bandwidth is measured in - cycles per second (hertz) or bits per second (bps). The bandwidth is the rate at which the data is transferred between the Access Point and mobile terminals.
6. Regarding applicant's argument of Claim 1 that "Bauchot does not...adjusting a rate of Contention Free Period occupancy of said at least one wireless communication terminal in

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the fixed bandwidth, based on the received transmission rate” on pg. 8, 2nd paragraph lines 1-4, Examiner respectfully disagrees. Bauchot teaches of having adjustable periods for data transfer (see col. 8, lines 12-42,54-59; Fig. 3), where the boundaries are adjustable between the periods such as the UP_RESERVED period and the UP_CONTENTION period based on the bandwidth reservation request (see col. 6, lines 29-58). The adjustment is provided by the Access Point which is the scheduler for allocating bandwidth to the various connections of the wireless cell.

7. Regarding applicant’s argument of Claim 5 that “Bauchot does not teach... associating said at least one wireless communication terminal to the Access Point after adjusting a ratio of the Contention Free Period to Contention Period”, Examiner respectfully disagrees. Bauchot teaches of a mobile transmitting reservation requests (see col. 6, lines 37-38,43-49; Figs. 1-1A), where the association of the mobile terminal (10) to the Access Point (18) would be inherent for the allocating bandwidth. The periods can be variably adjusted between the UP_RESERVE and UP_CONTENTION (see Fig. 3).
8. Regarding applicant’s argument of Claim 6 that “Bauchot does not teach... period adjusting means for adjusting a rate of a Contention Free Period occupancy of said at least one wireless communication terminal in the bandwidth, based on the received transmission rate” on page 9, 3rd paragraph lines 1-4, Examiner respectfully disagrees. This claim is rejected for the same reasons set forth above in the rejection of Claim 1, therefore the period adjusting means is inherent.
9. Regarding applicant’s argument of Claim 10, the claim is rejected for the same reasons as set forth above in claims 5 and 6.

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10. Regarding applicant's arguments of Claims 2, 4, 7, and 9, the claims are rejected for the same reasons set forth above in the rejections of Claims 1 and 6.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

11. Regarding applicant's arguments of Claims 3 and 8, the claims are rejected for the same reasons set forth above in the rejections of Claims 1 and 6.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

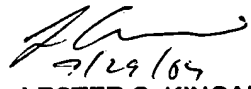
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJD,JR/wjd,jr
27 July 2004


7/29/04
LESTER G. KINCAID
PRIMARY EXAMINER